

Contributors to This Issue

C. J. ALTENBURG, M.E., 1934, Stevens Institute of Technology, Gibbs and Cox, Inc., 1936—. He is a senior engineer and assistant department head in the engineering department responsible for design of the C.S. *Long Lines*. Member, Society of Naval Architects and Engineers, American Society of Naval Engineers, National Association of Corrosion Engineers, American Welding Society and A.S.T.M.

J. D. BISHOP, B.S. in E.E., Ohio University, 1953; Bell Telephone Laboratories 1953—. He has been engaged in circuit design of a broad range of power supplies and power systems for specific applications. These include microwave systems, carrier systems, electronic switching systems, data systems and military projects. He currently is in charge of a power supply circuit design group. Member, IEEE, Audio Engineering Society and Tau Beta Pi.

MILES W. BOWKER, Bell Telephone Laboratories, 1940—. Mr. Bowker's early work was concerned with the development of outside plant apparatus, construction methods, and maintenance methods. This work included the development of the first solderless splice for polyethylene insulated coaxial cable and the original feasibility studies on the use of gas pressure in the exchange plant. From 1956 to 1960, he contributed to the design of, and the manufacturing feasibility studies for, the armorless ocean cable. From 1960 to 1963, he was concerned with the fabrication and placing methods for experimental circular waveguide. Currently, he is involved in analytical and experimental engineering mechanics studies covering a variety of problems, including infrared transmission, heat transfer, servomechanisms, statics and dynamics, and nuclear weapon effects.

S. THEODORE BREWER, B.S. in E.E., 1937, M.S. in E., 1938, Purdue University, Bell Telephone Laboratories, 1937—. In his early assignments, he contributed to the development of broadband coaxial systems and video feedback amplifiers, including the design of measuring equip-

ment associated with these developments. Later, he was concerned with electronically controlled automatic switching. He holds patents on control and feedback systems, switching networks, and repeater circuits. In the SD system development, he was in charge of a group responsible for the electrical design of the undersea repeater. Currently, he is in charge of the repeater circuit design for a high-capacity transistor submarine cable system. During World War II, he served as radar staff officer with the 62nd Fighter Wing. Member, IEEE, Eta Kappa Nu, Tau Beta Pi and Sigma Xi.

JOHN H. BUTLER, Gibbs and Cox, Inc., 1933—. His work with this firm has included participation in the design of the C.S. *Long Lines*. Member, Society of Naval Architects and Marine Engineers.

FRANK R. DICKINSON, B.S.E.E., 1927, Union College; Bell Telephone Laboratories, 1931—. His early work at Bell Laboratories was in the engineering of trial installations of new telephone equipment, followed by analysis work on current engineering problems. From 1936 until 1954 he was engaged in mechanical design of carrier equipment units for C, J, and L systems, except for the period during World War II when he was involved in the mechanical design of airborne radar bombsight units. In 1954 he became supervisor of a group responsible for the mechanical design of repeaters for ocean cables and related problems, and is currently involved in design of a new broader-band repeater. Member, Eta Kappa Nu.

R. D. EHRBAR, B.S.E.E., 1937, Johns Hopkins University; Bell Telephone Laboratories, 1937—. He first worked on K and L-type carrier equipment. During World War II he participated in the development of various airborne radar systems. After the war he worked on development of the L3 coaxial cable system. In 1955 he became Head, Submarine Cable Systems Department, and has since been associated with various submarine cable projects. Senior member, IEEE.

JOHN M. FRASER, B.S. in E.E., 1945, Polytechnic Institute of Brooklyn; Bell Telephone Laboratories, 1934—. His early work dealt with the design and evaluation of communication systems for both the military and the Bell System. Since then he has been engaged in transmission system engineering on a variety of carrier systems, including submarine cable systems. He is currently responsible for a group working on a new

TASI, the SD submarine cable, and new terminals to improve high-frequency overseas radio transmission. Senior member, IEEE; member, Sigma Xi, Tau Beta Pi and Eta Kappa Nu.

R. W. GREYTER, S.B. in M.E., 1950, S.M. in M.E. 1951, Mech. E. 1953, and Sc.D. in M.E. 1956, Massachusetts Institute of Technology; Bell Telephone Laboratories 1955—. Initially Mr. Greyter did analytical work in cable mechanics. This was followed by participation in the development of cable machinery for C.S. *Long Lines*. He now supervises a group which is responsible for cable handling equipment and for some aspects of the submarine cable burier. He is a licensed professional engineer and a member of Pi Tau Sigma, Tau Beta Pi and Sigma Xi.

O. D. GRISMORE, B.S.E.E., 1927, Purdue University; American Telephone and Telegraph Co., 1927–1934; Bell Telephone Laboratories, 1934—. He first worked on field measurements of inductive interference from power systems and electrical railways; following this he became concerned with field trial installations and equalization studies of coaxial carrier systems. During World War II he worked on weapons, high-altitude radar bombing, and field studies of radar target identification. After the war he resumed work on coaxial carrier systems. His work with submarine cable systems started with the transmission aspects of cable manufacture and has continued in cable handling operations on cable ships. Registered professional engineer; member, Eta Kappa Nu and Tau Beta Pi.

V. LYMAN HOLDAWAY, B.S., 1929, M.S., 1930, California Institute of Technology; Bell Telephone Laboratories, 1930—. He was first engaged in the development of a family of mercury vapor rectifier tubes for radio transmitters and public address systems. This was followed by work on the development of a series of thyatron tubes for telephone power plants. During World War II, he worked on medium-voltage temperature-free thyatrons for use in gun directors and military communications systems and on ruggedized miniature cold cathode tubes for use in magnetic mines laid from aircraft. Later work was concerned with cold cathode tubes for telephone plants. These included multi-element tubes for selective ringing, voltage reference and regulator tubes, and the talking-path diode for the first electronic switching system (Morris, III.). He was also active in the renovation of the safety organization of Bell Laboratories. More recently his work was centered on gas tubes for the protection of submarine cable systems, and his latest assign-

ment is in the field of gas masers. He holds nine Bell System patents, is a member of IEEE and Sigma Xi, and is a registered professional engineer of the State of New York.

SVEN G. JOHANSSON, B.S. in E.E. 1924, Tekniska Gymnasiet, Orebro, Sweden. Mr. Johansson joined the Western Electric Company Engineer of Manufacture Organization at Kearny, New Jersey, in 1929. After various assignments in the physical electrical laboratory, design of electrical testing equipment, and crystal unit manufacturing planning, he was promoted to Department Chief in charge of Microwave Electron Tube Engineering at Western Electric, Allentown Works, in 1947. In 1953 he was assigned to Hillside, New Jersey, as Engineering Department Chief on flexible submarine cable repeaters. In 1959 he was promoted to his present position, Assistant Superintendent in charge of engineering organizations for manufacture of flexible and rigid submarine cable repeaters at the Western Electric Hillside and Clark, N.J., shops. Member, IEEE.

R. A. KELLEY, B.S.E.E., 1947, and M.S.E.E., 1948, Purdue University; Eastman Kodak 1948-1950; Bell Telephone Laboratories, 1950—. After working on the L3 coaxial system, Mr. Kelley was concerned with the development of broadband submarine cable systems, including the system design and repeater circuitry for the SD System. He is now Director, Digital Transmission Laboratory. Member, IEEE, Tau Beta Pi, Eta Kappa Nu and Sigma Xi.

BROOKE W. LERCH, B.S. in M.E., University of Michigan, 1931; Western Electric Company, Inc., 1937—. Mr. Lerch's first assignments at the Baltimore Works of Western Electric Co. were textile applications and rubber extrusion for drop and station wires. During World War II he was the engineering department chief at the Western Electric Scranton, Pa. shops, engaged in design and production of cords and field cables for the armed forces. Returning to Baltimore Works, Mr. Lerch's assignments were concerned with outside plant wires and cords. Later, he became Assistant Superintendent, Toll and PIC Exchange Cable. In 1961 his duties included ocean cable engineering and inspection. Member, Wire Association.

ROBERT J. MCSWEENEY, B.S., Stevens Institute of Technology, 1954, Gibbs & Cox, 1954—. He was originally involved in analysis of propulsion systems for naval vessels and was responsible for purchase specifica-

tion preparation and subsequent technical evaluation of resultant proposals. He is at present responsible, with others, for the design of complete shipboard electric power systems. In connection with C.S. *Long Lines*, he was responsible for the preliminary and detailed design of the electric propulsion system, including coordination of the drive characteristics with the dynamics of the ship-propeller-water system and the boiler-steam-turbine cycle. He maintained liaison with the shipyard during and after construction, and organized, directed, and analyzed the main propulsion system sea trials.

L. H. MORRIS, B.S.E.E., 1935, City College of New York; Bell Telephone Laboratories, 1928—. He has worked on coaxial cable systems from the early one-megacycle trial systems through the L3 system, and on the TH microwave radio relay system. Since 1959 he has headed a department responsible for system and terminal aspects of various submarine cable projects.

SAMUEL MOTTEL, B.S.M.E., 1950, City College of New York, Bell Telephone Laboratories, 1952—. Mr. Mottel has been concerned with power equipment and systems development since joining the Laboratories. He has worked on power for carrier systems, microwave systems, Bell System and military submarine cable systems, data systems and various military communications systems. Since 1963 he has supervised a group working in systems power equipment development areas. Member, A.S.M.E.

ELLIOTT T. MOTTRAM, B.S.M.E., 1928, Columbia University; Bell Telephone Laboratories 1928—. His early work was in development of disc recording and reproducing equipment and techniques. Later he was concerned with development related to recording and reproducing sound on film and on tape. During, and for a short time after, World War II (1939-50) he was engaged in development of airborne radio and radar equipment, electronic computers and bomb sights, and airborne homing missiles. In 1950 he became Director of Transmission Systems Development with responsibility for development of television, wire and military communication systems. This included submarine cable development, which has occupied an increasing proportion of his interest as new systems have been developed and laid. Member, IEEE.

WENDELL G. NUTT, B.S.M.E., 1949, Texas Technological College; Southwestern Bell Telephone Co. 1949-1953; Bell Telephone Labora-

torics, 1953—. At Bell Laboratories he first worked on gas pressure maintenance and splicing of multipair cables. Next he was concerned with the development of armorless ocean cable and with waveguide for the circular electric mode. He is currently supervisor of a group concerned with the development of broadband multicoaxial cables for land routes. Member, Tau Beta Pi, Kappa Mu Epsilon and Alpha Chi.

JAMES W. PHELPS, B.S.E.E., Iowa State University, 1951; Bell Telephone Laboratories, 1951—. His early work was in the design and specification of electrical protection systems. In 1956 he transferred to a group responsible for the design and development of armorless ocean cable. He headed the group responsible for the operation of the experimental cable laboratory in Cambridge, Massachusetts, where the early cable samples were produced. At present he supervises a group working on a new cable structure for broadband use. Member, Tau Beta Pi and Eta Kappa Nu.

R. M. RILEY, A.B., 1943, Park College; M.S., 1948, University of Minnesota; Instructor, University of Minnesota, 1946-1948; Instructor, Iowa State University, 1948-1949; Bell Telephone Laboratories, 1949-1953; Chief Engineer, Visioneering Company, 1954-1955; Bell Telephone Laboratories, 1955—. He was first engaged in studies for the outside plant department. He has more recently been engaged in the development of ocean cable and is presently Assistant Director, Outside Plant Laboratory. Member, IEEE and Mathematical Association of America.

PHILIP W. ROUNDS, A.B., 1929, Harvard University; Bell Telephone Laboratories, 1929—. Prior to World War II, Mr. Rounds was concerned with the development of transmission networks for toll telephone, telephoto and program systems. During the war he developed computing networks for antiaircraft gun directors and bombsights, as well as transmission networks for sonar systems. He has since worked on the development of transmission networks for television systems and more recently the development of submarine cable systems. Member, IEEE.

LAURUS E. SUTTON, III, M.E., 1948, Stevens Institute of Technology; graduate study, Stevens Institute of Technology, Columbia University and Massachusetts Institute of Technology; Gibbs and Cox, Inc., 1948—. He has worked on the design of various experimental naval craft, including hydrofoil research craft, and commercial ship design. He is presently head of the scientific section of the electrical

division of Gibbs and Cox, Inc. Member, IEEE and American Ordnance Association.

WILBUR VAN HASTE, B.S.E.E., 1936, New York University; Bell Telephone Laboratories, 1928—. He has been concerned with the design and development of grid-controlled electron tubes for use in a wide variety of Bell System communication projects. These include tubes for open wire, coaxial cable, microwave, and submarine cable systems. He presently supervises a group responsible for the final design and acceptability of tubes for SD submarine cable systems. Senior member, IEEE; member, Iota Alpha.

CHARLES A. VON ROESGEN, Dipl. Ing., 1952, Swiss Federal Institute of Technology, Zurich (Switzerland); Bell Telephone Laboratories 1953—. He first worked on the development of cables for submarine use; following that he engaged in automatic transmission test equipment design. In 1960 he became a supervisor of a group concerned with the development of the SD repeater. At present, Mr. von Roesgen is responsible for the design of new submarine cable terminal equipment. Member, IEEE.

EDWARD J. WALSH, Bell Telephone Laboratories, 1928—. He has chiefly been engaged in the mechanical design of electron tube structures and enclosures, including the design during World War II of proximity fuse tubes and the thermally tuned klystron, and later of the frame-grid tubes used in microwave radio relay systems. More recently he has supervised a group responsible for mechanical design of electron tubes for the SD submarine cable system; he is presently in charge of a group working on structures for the gaseous optical maser, photomultipliers, and other electron devices.

